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DESCRIPTIONS OF NEW OR LITTLE KNOWN SOUTH AFRICAN RHOPALOCERA (LEPIDOPTERA)

By N. D. Riley.

[Read 1st June, 1938.]

With Plates 1–2 and 4 Figures.

Satyridae.

Pseudonympha dicksoni sp. n. (pl. 1, fig. 1, 2, pl. 2, fig. 26, 27).

♂♀. *Upperside* dark brown. *Fore-wing* with a large red area occupying the whole of the cell (although obscured towards the base) except a very small and narrow area at the anterior distal corner (along the discocellular vein), and extending thence in areas 4, 5 and 6 (a few scales only in 6) to the ocellus; below the ocellus the red area occupies fully three-fifths of each of the areas 2 and 3, extending much more than half-way from cell towards margin; in area 1a the red (heavily obscured basally) extends to within about 3·5 mm. of margin, but is represented by only scattered scales in the lower half of the area and in area 1; the black ocellus is small, being only 2 mm. long, is surrounded by a narrow ring faintly paler than the ground colour, and contains two small faintly blue-tinted white spots. *Hind-wing* uniformly dark brown. *Underside*: *fore-wing* as above, except that the red patch is brighter and the pale ring round the ocellus paler and more prominent; at the apex, above vein 6, and along the costa the ground colour has a glossy, purplish sheen due to the admixture of numerous purplish-grey scales. *Hind-wing* ground colour similarly purplish, with a prominent roundish very dark basal patch which in bright light under a lens is blue; beyond this is a wide ill-defined band, from costa (where it is narrowest) to inner margin and bounded by the end of cell, of scattered pale ochreous scales varying in density from place to place; a little beyond midway from this band towards margin is a row of five quite small pale ochreous dots one each in areas 2 to 6 and similar to others along the costa; even in the outer, purplish half of the wing there are some scattered ochreous scales, especially towards the cell.

Length of fore-wing: ♂ 18–19 mm.; ♀ 18–20 mm.

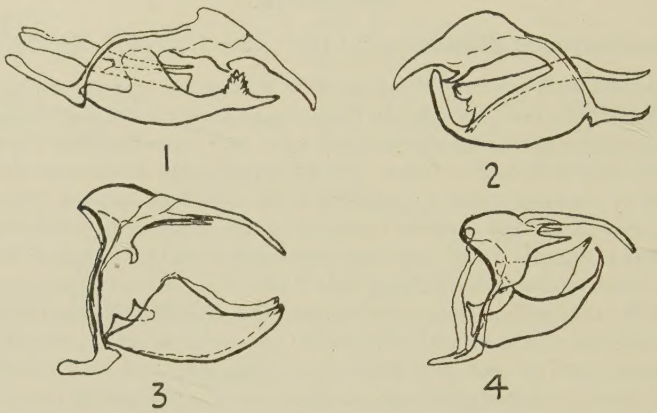
Holotype ♂ and 2 ♂ paratypes (Type Nos. Rh 425–7) all with same data: Tygerberg Hills, near Cape Town, S. Africa, 2.x.33 (*C. G. Dickson*); allotype ♀ and 1 ♀ paratype (Type Nos. Rh 428–9), 17.ix.34 (same data otherwise); all in British Museum (Nat. Hist.).

I am indebted to Mr. C. G. Dickson for the opportunity of examining the three males and two females referred to above. They represent a species not hitherto recognised and not at first sight very readily distinguished from *Pseudonympha irrorata* Trimen (pl. 1, fig. 3, pl. 2, fig. 28). Compared with that species, however, the type of which is now in the British Museum, *P. dicksoni* can be distinguished by the more rounded fore-wing, the extension of the red patch on the fore-wing farther towards the termen, and, on the underside, by the purplish tint of the hindwings, in particular the dark basal patch, and the ochreous mottling of the central area. The underside is suggestive of a *P. irrorata* that has been stained by some greasy substance.

The male genitalia are very similar, but they show certain small but import-

ant differences, as will be seen from the figures (figs. 3 and 4). The distal portion of the clasper in *P. dicksoni* is deeper in the dorso-ventral plane and stouter, and its curved extremity longer; the lateral apophyses of the uncus are also relatively a good deal longer, and the central portion of the penis is much broader.

Mr. Dickson writes that the flight period appears to be of about three weeks' duration. After the end of September specimens are always worn and faded. All the specimens, except one, were caught in the Tygerberg Hills, about ten miles from Cape Town, at an altitude of about 800 ft., in a small quarry by the roadside. The quarry contained a pool of rain water, and the butterflies showed a decided preference for settling on the damp mud at the side of the pool. A single specimen was obtained at Durbanville, some miles farther



Figs. 1–4.—Outlines (lateral aspect) of male genitalia of (1) *Coenyra aurantiaca* (Auriv.), (2) *Coenyra hebe* Trimen, (3) *Pseudonympha dicksoni* sp. n. and (4) *Pseudonympha irrorata* Trimen. In figures 3 and 4 the aedeagus is not indicated.

inland, on ground sparsely covered with low bushy vegetation, but also in the vicinity of water. *Pseudonympha hyperbius* (L.) was flying in large numbers in the surrounding country, and also in the quarry; *P. irrorata* Trimen does not occur there.

Pseudonympha trimenii gaika subsp. n. (pl. 1, fig. 6, pl. 2, fig. 31).

♂. Differs from typical *P. trimenii* Btlr. as follows: *Upperside*: the red patch in cell of *fore-wing* rather less conspicuous, more diffuse but distally more extensive; red patch on disc of wing much larger, extending from apical ocellus fully to the discocellulars and correspondingly widened towards tornus, not surrounded by a dark line; apical ocellus much larger, the pale greyish-ochraceous edging (towards apex) barely lighter than the ground colour of the wing, and the two pupils larger and more deeply blue-tinted. *Hind-wing*: with four almost equal ocelli, those in areas 2 and 3 enclosed in a large sub-triangular red patch the truncate apex of which almost reaches the discocellular veins. *Underside*: the red patch on *fore-wing* extends uninterruptedly from base to ocellus, is bounded below by vein 2, and outwardly (below ocellus) by a dark submarginal line; for the rest, the dark markings are all heavier and more prominent, the transverse lines across the middle of the *hind-wing* rather closer together, and the background markedly less granular in appearance.

Length of fore-wing 20 mm.

The holotype (B.M. Type No. Rh 430) was obtained on 16th January, 1933, on Gaika Kop, Cape Province, by Mr. K. M. Pennington, who states that he has

met with this local race only on the summit of Gaika's Kop, at an altitude of 6500 feet, and that it is on the whole very constant, its characteristic features being well exemplified by the specimen described above. It is probable that Trimen's description of " var. A " (*S. Afr. Butterflies* **1** : 98) was based upon specimens referable to this local race.

Pseudonympha machacha sp. n. (pl. 1, fig. 4, 5, pl. 2, fig. 29, 30).

♂. *Upperside.* Differs from *P. trimenii* Btlr. in that the two red patches of the *fore-wing* are joined to form a large undivided triangular patch extending from about the middle of the cell to the ocellus, beyond it in areas 2 and 3 and overlapping vein 2 towards dorsum, and not outwardly bounded by a dark line. The ocellus is laterally compressed and oval in shape rather than round. On the hind-wing the red patch enclosing the submarginal ocellus in area 3 extends slightly farther basad and is less well defined inwardly; the ocelli are smaller than normal to *P. trimenii*, three in number, and those in areas 2 and 4 not ringed with pale grey. On the *underside* the *fore-wing* red patch is more extensive than on the upperside, reaching to vein 1, and also closer to the termen; there is some silver-grey scaling between the ocellus and the apex. The ground colour of the *hind-wing* is silver-grey, so that the silvery veins are less conspicuous than in *P. trimenii*, the ocelli form a chain rather than a band, and the two transverse bands are broader, less sharply defined and brown rather than black.

♀. The upperside of the female is more like that of *P. trimenii*, since the red patches are not joined together. The inner one is rather smaller than usual, but the outer one instead of narrowing posteriorly continues of almost even width and finishes squarely just above vein 2. The *hind-wing* resembles that of the male. On the *underside* of the fore-wing the red patches are joined as usual in the female; and the differences in ground colour, etc., are only those normal to the sex.

Holotype ♂ (B.M. Type No. Rh 431) labelled " Machacha, Basutoland, 30.i.1902 (*R. Crawshay*), 1902–64, 10,500 ft. (108)." Allotype ♀ (B.M. Type No. Rh 432) labelled " Basutoland, 30.i.1902, R. Crawshay, 1902–64, (94)." On the same day two further pairs were obtained. These are all in the British Museum (Nat. Hist.), (B.M. Type Nos. Rh 433–6). Mr. K. M. Pennington has also sent me two male Pseudonymphas taken on Bushman's Pass, Natal, on 21st January, 1936, which prove to be this species.

In a letter dated 17th March, 1938, Mr. Pennington states that *P. trimenii gaika* and *P. machacha* were flying together. " *P. penningtoni* was there too [at Bushman's Pass apparently] and *P. magus paludis*. I suppose I saw 25 *machacha* for every 1 *gaika*, but the latter was there in considerable quantities, flying in the same dips and dampish ground. *P. magus* and *paludis* exist at different altitudes, *paludis* beginning roughly where *magus* ends."

The occurrence of *P. machacha* and *P. trimenii gaika* together is particularly interesting. It appeared at first that both these were local races of *P. trimenii*, from rather widely separated localities. This fresh information, however, has rendered that view untenable, and a cursory (dry) examination of the male genitalia appears to confirm this.

Pseudonympha penningtoni sp. n. (pl. 1, fig. 7, 8, pl. 2, fig. 32, 33).

♂. *Upperside,* ground colour and cilia dark brown, a faint anteciliar line darker brown. *Fore-wing* with a suboval jet-black apical ocellus about 3 mm. long and enclosing three small bluish spots of which the topmost is the smallest and is displaced apicad of the axis of

the other two; a chestnut-brown patch fills the space between the cell-end and the ocellus and extends almost to vein 7 in one direction and to vein 2 in the other, in both directions being cut off squarely parallel with those veins; along vein 4 the chestnut patch reaches to the outer, lower, edge of the ocellus, whence its boundary drops, parallel with the termen, almost to vein 2. *Hind-wing* with a faint dark brown submarginal line from anal angle to vein 7; a roughly triangular chestnut-brown patch (darker than on fore-wing) resting on the antemarginal line and lying mostly in area 3 but overflowing into 2 (slightly) and 4 (as a long narrow patch along the vein), not sharply defined; three minute ocelli, one in 3 (in the red patch) and one each in 2 and 4, on the edge of the red patch, those in 3 and 4 pupilled with a few blue scales.

Underside, ground colour a little paler than in upperside. *Fore-wing* ocelli smaller than on the upperside, ringed with grey brown, the uppermost ocellus missing; the chestnut-brown patch reaching vein 2 throughout its width, but not extending much above vein 6; an oval patch of the same colour lies along the lower edge of the cell about the origins of veins 2 and 3, being cut off from the main area by a prominent angled bar of the ground colour; the apex and termen marked between the veins with pale grey scales which serve to emphasise the darker ciliar and submarginal lines. *Hind-wing* very beautifully banded and mottled with black, white and pale yellowish-brown. The basal area predominantly white, most heavily mottled with darker close against the body; a broad pale yellowish-brown band from costa to vein 1, sharply edged with black and having prominent projections in areas 3 and 4 alongside veins 4 and 5; contiguous with the outer edge of this band runs a wide band of white, which is evenly curved on its outer edge, runs basad along the abdominal margin, and forms the inner boundary of a band of ground colour in which are set five equal black ocelli (in areas 2 to 6) each pupilled with a few blue scales; a submarginal white line, somewhat wavy, and projecting at each vein to the margin, edged between the veins with black.

♀. Closely resembles the male, except in the following particulars. *Upperside*: the *fore-wing* orange patch is posteriorly rounded, and reaches vein 2; the *hind-wing* patch is smaller, and the ocelli are very inconspicuous. *Underside*: the silver-grey scaling is very largely absent, being most visible between the discal band and the ocellar band on the hind-wing.

Antennae, both sexes, when viewed from the side, black above, continuously and uniformly white beneath except the tip of the club. Length of fore-wing, ♂ and ♀, 17 mm.

Holotype ♂ (B.M. Type No. Rh 437) and allotype ♀ (B.M. Type No. Rh 438), both from Bushman's Pass, Natal, 21.i.36 (*K. M. Pennington*), in British Museum.

This very distinctive little species is reminiscent of *P. paetula* Trimen and *P. trimenii* Butler, in its possession of a complete series of equal hind-wing ocelli, but it is smaller than these and *P. magus* F., which its underside also in some ways suggests. It is nearest in size and appearance to *Pseudonympha machacha* (described above), in the company of which it was taken by Mr. Pennington. When forwarding the pair which are described above, Mr. Pennington wrote (9th April, 1935): "Its flight was distinct from all the other species of the genus, quicker, closer to the ground, and more jerky, and quite suddenly dropping to the ground. It was rather late in the afternoon for them to be really active, but there were a good many other Pseudonymphas about, and I never failed to spot these by their flight, even at a distance of thirty or forty yards." Later, on 1st March, 1937, Mr. Pennington wrote that he "was up there ten days earlier than last year, and camped some miles from the Natal escarpment in the valleys of Basutoland (9–11,000 feet)," he "found the two new Pseudonymphas [*P. penningtoni* and *P. machacha*] in vast

quantities, and so constant that I have no doubt whatever that they are different. They are the dominant forms up there. . . . "

Close as these two insects are, they are readily separable, as the figures show. *P. penningtoni* is slightly the smaller of the two, and the brown cell-bar on the underside of the fore-wing is very characteristic of it. From no angle does the antenna of *P. machacha* appear so evenly and broadly white as in *P. penningtoni*. The presence (*machacha*) or absence (*penningtoni*) of red in the cell on the upperside of the fore-wing is also another good character.

Pseudonympha magus form. **paludis** form. n.

♂. On the *upperside* differs from all other forms of *P. magus* F. by lacking the red patch in the cell of the fore-wing. The discal patch is small (or may be almost absent) and does not extend beyond the apical ocellus. On the *underside*, the fore-wing shows little reduction in the extent of the red area, except, perhaps, that it does not approach as close to the outer margin as in most forms of *P. magus*, but the hind-wing is characterised by a rather bright silvery-grey ground colour which is rendered the more striking by the faintness (or virtual disappearance) of the usual pair of transverse lines.

♂ Holotype (B.M. Type No. Rh 462). Giants' Castle, 8000 feet, Natal, 6.x.1933 (*K. Pennington*).

Mr. Pennington informs me that he took seven other males at the same time and place, all exactly alike. In the holotype there is a well-developed ocellus in area 4 on the underside of the hind-wing. This is very unusual in *P. magus*, but it also occurs in one male (of five) taken at 5950 feet alt. at Belfast, Transvaal, in March 1901 by R. Crawshay. Crawshay noted that his 5 males occurred in the " most watery parts of swamps where snipe abound." Although larger than Pennington's specimens, they are all referable to f. *paludis*, which may prove ultimately to be a geographical race, although the occurrence of more normal *P. magus* at an altitude of 9000 ft. at Machacha in Basutoland clearly indicates that much more extensive and exact information on distribution is needed before conclusions can safely be drawn. (See note above at *P. machacha*.)

Coenyra Hewitson.

In 1911 Aurivillius (Seitz, *Macrolep.* **13** : 108) described what he considered to be a variety of *Coenyra hebe* Trimen as ab. *aurantiaca*. He distinguished it by its three orange-yellow bands on the fore-wing, which he contrasted with three similar but rust-red bands in *C. hebe*.

This form is a well-marked one, the orange bands being sometimes, especially in the female, produced to some extent on to the hind-wings. It is, however, by no means a form of *C. hebe*, but a very distinct species which will have to be known as *Coenyra aurantiaca* Aurivillius. True *C. hebe* has dark brown bands on the fore-wing which are darker than the ground colour, and certainly never rust-red in the male, although sometimes tinged with this colour in the outermost band (just before the ocellar patch) in the female. Moreover, the ground colour of *C. hebe* is not grey-brown (as Aurivillius says it is) but warm rather dark brown, only an occasional worn female acquiring a greyish look. On the other hand, *C. aurantiaca* is decidedly grey-brown in ground colour, in fact might almost be called grey, so little brown is present. The androconial patch in *C. aurantiaca* is naturally more prominent than in *C. hebe*, being of the same colour, but it is also considerably larger; the alignment of the ocelli on the fore-wing differs (the lower one being nearer the margin in *C. aurantiaca*); the

outer discal orange band on the underside of the hind-wing is bent almost at a right angle in *C. aurantiaca* but much less sharply angled in *C. hebe*, etc., etc. But if further confirmation of the separation of these two species were needed, it is abundantly provided by the genitalia of the males. As will be seen from the figures, *C. aurantiaca* (fig. 1) has on the upper edge of the clasper a large rounded prominence which is armed with a large number of short stout teeth—in which it greatly resembles certain species of *Erebia*; but the clasper of *C. hebe* (fig. 2) is quite devoid of any comparable development. The relative lengths of the uncus and its lateral apophyses differ greatly, and the details of the aedeagus (unfortunately not very obvious in the figures) are quite unlike in the two species.

One is almost forced to conclude that Aurivillius was not acquainted with true *Coenyra hebe*, for so shrewd an entomologist could hardly have overlooked such clear specific characters as these.

Lycaenidae.

Phasis thyra (L.).

A detailed study of the variation and distribution of this very attractive little butterfly should yield some interesting results. It would appear to be moderately common in many parts of the Cape Province and to vary in the tone of the ground colour of the underside of the hind-wing from grey through warm brown to brilliant purple. All the variations seem to fly together so that they would appear to be neither local nor seasonal. Examination of the genitalia of seven widely differing males all labelled " Cape Town " provided no characters whatever on which to separate the various varieties; all were exactly alike.

It does not seem possible to distinguish any local races in the coastal strip running from Cape Town eastwards as far as Knysna. From Redhills, Simonstown, Mr. P. R. Robertson has sent two males and three females, however, which are very small and brightly coloured, the brilliance with which the relatively rather large silvery markings of the underside stand out, being particularly noticeable in the purple form, less so in the brown form. In these five specimens the black borders of the upperside are narrower than in typical *P. thyra* and the veins running through the orange area are not black. This variety may be known as form. **egerides** form. n. The types (B.M. Type No. Rh 439, ♂; 440 ♀) were taken on 19th April, 1936 (pl. 1, fig. 10, pl. 2, fig. 35).

A large pale form of the male, in which the upperside ground colour is light orange and devoid of black veining, the orange fills almost the whole of the cell of the fore-wing, and the basal third of the fore-wing costal area is pale, seems to deserve a name, and may be known as form. **pallida** form. n. (pl. 1, fig. 9, pl. 2, fig. 34). It is further distinguished by the tendency which the black apical patch of the hind-wing upperside has to continue broadly down towards the anal angle instead of being truncated at vein 5 (or thereabouts). The holotype (B.M. Type No. Rh 441) was taken at Steyneberg (C.P.), 17.ix.33, by K. M. Pennington, and other specimens in the British Museum are from Worcester D., Matjesfontein (Trimen coll.) and Ceres, C.P., November, 1920 (*R. E. Turner*). A similarly light-coloured female appears to be associated with this male, and in both sexes the zigzag discal line on the underside of the hind-wing is very fully developed but not very prominent.

Namaqualand males in the British Museum come fairly close to this f. *pallida*, as also do a female from Port Elizabeth and a male and two females

from "Caffra." It would be interesting to know whether the black-veined normal *P. thyra* has ever been bred from the *pallida* type of female or vice versa. Knysna specimens seem to be somewhat intermediate.

The well-marked subspecies inhabiting Zululand, Natal and the Transvaal has been described by Swierstra as *dentatis*.

In Basutoland there occurs a further well-marked subspecies which may be described as follows :

Phasis thyra maseruna subsp. n. (pl. 1, fig. 11, 12, pl. 2, fig. 36, 37).

♂ and ♀. *Upperside* very similar to that of *P. thyra dentatis* Swierstra, light orange, the black border of fore-wing 2–3 mm. wide, indented at the veins, considerably widened apically (where it encloses a few scattered orange scales), extending basad little more than half-way along the costa; on hind-wing, border linear, except for a moderate expansion apically; cilia prominently chequered black and white. On the underside of the fore-wing the orange area reaches the submarginal spots in areas 1a to 5, and includes those in 2 and 3; remainder of both wings powdery purple crossed on the hind-wing by *continuous* wavy silver-grey discal and submarginal lines extending fully from inner margin to costa; spotting in remainder of surfaces as normal.

1 ♂ (Holotype), 4 ♀♀ (B.M. Type Nos. Rh 442–6), Maseru, Basutoland, October 1901 (*R. Crawshay*), 1902–64.

The continuous, complete, well-defined grey discal and submarginal lines of constant width on the hind-wing underside at once mark this subspecies off from others.

Phasis zeuxo zonarius subsp. n. (pl. 1, fig. 22, pl. 2, fig. 47).

♂♀. Differ from *Phasis zeuxo zeuxo* (L.), which may be taken as occurring typically in the immediate neighbourhood of Cape Town, in being smaller and much darker on both surfaces. The *fore-wing* is about 1 to 2 mm. shorter in both sexes; the fore-wing costal area is wholly black like the termen, to such an extent that the uppermost subapical black spot is almost or quite enveloped in it; the terminal border is so widened as nearly to reach the black spots in area 2 and 4; and on the *hind-wing* the marginal black border is so expanded as to reach the submarginal line of black spots through at least half its length. The ground colour of the *underside* of the hind-wing and of the costal, apical and terminal areas of the fore-wing, is grey, without any suggestion of the brownish or ochreous tint that is always present in typical *zeuxo*; and the anal angle is slightly less produced.

Described from 3 ♂♂ and 1♀ (B.M. Type Nos. Rh 447–450) collected by Mr. C. G. Dickson near Melkbosch Strand, Cape Province, 29.x.1934, and presented by him to the British Museum (Natural History). There is a fourth male in the British Museum, taken at Saldanha Bay in October 1892 by P. de la Garde.

Poecilmitis penningtoni sp. n. (pl. 1, fig. 19, 20, pl. 2, fig. 44, 45).

♂♀. *Upperside*, bright ochreous, basally silvery-blue, a black marginal border narrowing gradually from apex of fore-wing to anal angle of hind-wing; cilia dark grey *prominently chequered with pure white*; anal angle of hind-wing slightly produced, hardly forming a tail. *Fore-wing* with prominent quadrilateral black spots at cell-end and in areas 3, 5 and 6 (the last three in line) and larger rather crescentic spots in 1a, 2 and 4 (the latter beyond the line of the other four and nearer to the margin than to the cell). *Hind-wing* with the same arrangement of spots, their relative positions, however, somewhat altered to conform

with the different shape of the wing, and much reduced or partly absent in the male. *Underside*: the fore-wing bright ochreous and having additional black spots in cell 2, in 9 (and 10) and at the base of 1 and 1a (a long curved spot); the large spot in 4 well separated from the conspicuous and fairly well-defined black line which divides the broad, shaded marginal area from the remainder of the wing. *Hind-wing* shaded with grey, buff and rusty red (along veins) as in *P. thysbe* (L.) and *P. palmus* (Cram.), but paler in general tone, and with the silver spots less linear, fuller, clearer and relatively a good deal larger.

♂. The male is chiefly characterised by the smallness of the black spotting, which is only just discernible on the upperside of the hind-wing, and by the vivid blue sheen, which reaches the angle of the fore-wing and the discal spots of the hind-wing, thus extending a good deal beyond the basal silvery-blue area.

♀. Devoid of blue sheen, silvery-blue area occupying only basal third of each wing; spots well developed. Length of fore-wing: ♂ 11 mm.; ♀ 12·5 mm.

Holotype ♂ and allotype ♀ (B.M. Type No. Rh 451 ♂, 452 ♀) Gaika's Kop, C.P., 16.i.1933 (*K. Pennington*).

This interesting little species was obtained in some numbers at an altitude of 6500 feet by Mr. Pennington, who, being doubtful whether it was really *P. thysbe* (L.) or not, kindly sent me a pair, from which the above description has been made.

The small size of the insect, its very rounded wings, short "tail" and white chequered fringes mark it off at once from typical *P. thysbe*, which in its colour, pattern and blue flush it otherwise strongly resembles. It is no doubt to this form that Trimen alludes (1889, *S. Afr. Butterflies* **2**: 182) in his description of three males from the Bashee River, for the characters to which he there calls attention apply admirably to the pair now described, except in respect to the width of the black marginal border; this is narrower in the pair from Gaika's Kop than in specimens from the eastern districts of the Cape. Unfortunately no material from western districts is available for comparison. It may turn out eventually that *P. penningtoni* is the western subspecies of *P. thysbe*; it is so different, however, that on the basis of the available data it can only be regarded as specifically distinct. A pair from Bushman's Pass just received from Pennington seem to support this view, as in the shape of its wings the male shows a marked approach to *P. thysbe*.

Poecilmitis thysbe (L.).

Two geographical races of this species appear to require names.

Poecilmitis thysbe trimeni subsp. n. (pl. 1, fig. 15, 16, pl. 2, fig. 40, 41).

Zeritis osbecki (Aurivillius), Trimen, 1887, *S. Afr. Butterflies* **2**: 183 (partim).

This is a small pale race characterised by the smooth contour of the wings and the even black borders. The border shows no sign of the marked indentations which are so prominent in typical *P. thysbe*, no trace of orange lunules, and only traces of pale grey cilia between the extremities of the veins. In the male the blue suffusion is rather pale, but very extensive, its outer edge running from the middle of the costa to the inner margin just short of the end of vein 1; on the hind-wing it is also more extensive, especially posteriorly. In the female there is little difference in this respect, but the pale, almost sandy, ground colour is noticeable, and the spotting is less heavy than in most true *P. thysbe*. In both sexes the tail is rather short.

The underside of the fore-wing presents no especial features, except the apical and

marginal areas which, together with the marginal area of the hind-wing, lack the striated appearance characteristic of typical *P. thysbe*. These areas are pale greyish or greenish-buff, and on the fore-wing are bounded by a black line which towards the apex (especially in the female) bears silver spots. The remainder of the hind-wing has the normal *P. thysbe* pattern, but the silvery spots are replaced by stouter spots of pale buff.

Length of fore-wing: ♂ 13·00 mm.; ♀ 15·00 mm.

Holotype ♂ and allotype ♀ (B.M. Type No. Rh 453 ♂, 454 ♀): Pt. Nolloth, Namaqualand, August 1890 (*R. Lightfoot*) (ex. Trimen coll.).

Trimen's description of *Zeritis osbecki* Aurivillius would appear to have been based very largely upon specimens from Port Nolloth, similar, presumably, to the pair here briefly described. There is, however, some confusion with the form which flies in the more immediate neighbourhood of Cape Town (*e.g.* orange lunules in the border, etc.), and differs from typical *P. thysbe* only in the uniformly reddish-brown underside of the hind-wing, and apex and termen of fore-wing. It is to this latter form that Aurivillius' name is usually applied and should be restricted.

Poecilmitis thysbe brooksi subsp. n. (pl. 1, fig. 13, 14, pl. 2, fig. 38, 39).

This is a small race in which the black spotting of the upperside (especially the hind-wing) and the terminal border of the fore-wing are better developed than in typical *P. thysbe* (L.). The fore-wing costa is very dark, and the dentate appearance of the termen is emphasised by the width of the black border and its projections along the veins. The most important feature, however, is the great reduction of the blue area. In the male this does not enter the costal area at all; in the cell it reaches only to the second spot (the first is obscured on the upperside); it barely reaches the origin of vein 2, and thence runs diagonally to the middle of the inner margin; on the hind-wing the reduction of the blue area is relatively less, as although the silvery area is sharply defined and only as extensive as in the female of typical *P. thysbe*, the blue sheen extends as far as the discal spots in areas 3 and 5. In the female the reduction of the basal silvery areas is not so great, and is chiefly noticeable on the fore-wing. The underside presents no especial features, unless it be that the apical and terminal areas of the fore-wing, and the whole of the hind-wing, are paler in general tone, sandier in appearance than in most (but not all) typical *P. thysbe*.

Length of fore-wing: ♂ 12 mm.; ♀ 13 mm.

Holotype ♂ and allotype ♀ (B.M. Type No. Rh 455 ♂; 456 ♀)15.iv.1935 and 8.iv.1935 respectively, Cape Province, nr. Philadelphia (*J. H. Brooks*); 4 other males same data; all in British Museum.

The opportunity of describing this very distinct little race is due to the kindness of Mr. J. H. Brooks, of Wynberg, C.P., who states that all the *P. thysbe* caught in this particular locality near Philadelphia are exactly alike. A short series collected at Milnerton and presented to the Museum in 1934 by Mr. C. G. Dickson are almost typical *P. thysbe*. Philadelphia and Cape Town appear to be both within 15 miles of Milnerton; it is astonishing that two local races so sharply defined as these should exist so close together.

Poecilmitis turneri sp. n. (pl. 1, fig. 17, 18, pl. 2, fig. 42, 43).

♂. *Upperside*: both wings golden yellow, black spotted. *Fore-wing* termen bluntly angled at about vein 5, but not excavate on either side of the angle; cilia black, prominently white chequered; termen evenly black bordered, narrowing, however, at tornus, not dentate; costal edge and subcostal veins black; rectangular black spots at cell end, in 2, 3 (quite small), 4, 5, 6 and 9 (quite small), arranged as in *P. thysbe* (L.)

and *P. palmus* (Cram.); a small silver-grey patch at extreme base, extending about 2 mm. along dorsum, but not into cell. *Hind-wing* with short prolongation of anal angle, margin not dentate but evenly rounded; margin very finely black edged from apex to vein 5; cilia dark grey, white chequered, but mixed also with golden; discal black spots arranged as in *P. thysbe* and *P. palmus*; basal silver-grey scaling reaching to about origin of vein 8 and midway along vein 1a; abdominal area dark grey.

Underside: *Fore-wing* paler than above, with two additional small spots in cell, one in area 10, a long basal and a double discal one in area 1, and a submarginal interrupted black line; spots in cell, at cell end and in areas 4, 5, 6, 9 and 10 silver centred, and the submarginal line also silver marked in areas 4 and 5; marginal and apical areas pale greyish buff, traversed by orange along the veins; cilia grey, marked with white between at the veins. *Hind-wing* as in *P. palmus* (Cram.), but the pale (white or silver) basal spot in area 7 rather more conspicuous; general ground colour very pale greyish-buff, shaded with rusty-brown.

♀. *Upperside* as in male, but black spots more evenly developed, and therefore prominent in areas 1a of fore-wing, 1b, 2 and 3 of hind-wing as well as elsewhere as in male. *Underside* like the male, but (in allotype) darker in tone.

Length of fore-wing: ♂ 12·5 mm.; ♀ 14 mm.

Holotype ♂, Cape Province: Matjesfontein, 14–27.ix.1928 (*R. E. Turner*) (B.M. Type No. Rh 457); allotype ♀, Machacha, Basutoland, 10,000 ft. 30.i.1902 (*R. Crawshay*) (B.M. Type No. Rh 458).

This very distinct butterfly was referred to by Trimen (1887, *S. Afr. Butterflies* 2 : 185) in his account of *Zeritis palmus* (Cram.). He there mentions seven specimens taken at Maseru, in Basutoland, by Colonel Brooker. Unfortunately only one of these appears to have found its way into Trimen's collection, and so into the British Museum, and is a somewhat aberrant male with the discal spots of the hind-wing considerably elongated.

The species is very like *P. palmus* (Cram.), but it is smaller and has quite differently shaped, less angular wings, is paler in colour and has prominently white chequered cilia. On the underside, in both the males seen, the general tone is much paler than in *P. palmus*, but the allotype and another female from the same locality are both very deep brown beneath, with the silver-white spotting very well marked, and a very prominent white spot right at the base of area 7 where, in *P. palmus*, there is only an indication of a pale crescent-shaped spot.

Poecilmitis lycia sp. n. (pl. 1, fig. 21, pl. 2, fig. 46).

♀. *Upperside*: Brassy orange-yellow, spotted with black, and with marginal border of isolated interneural rounded or conical spots. *Fore-wing* with a very small black spot in cell just below origin of vein 11, and another in middle of area 9; a large rectangular spot at cell end, a large crescentic spot in 1a almost against the marginal spot, and 5 other discal spots almost equal in size in areas 2, 3, 4, 5 and 6, those in 2, 3, and 5 and 6 forming two conjoined pairs almost in line, and quite close to cell, the spot in 4 larger and midway between cell and termen. On the *hind-wing* the discal spots in areas 2 to 6 form an even curve midway between margin and cell end, where there is a much smaller spot, the spot in 1b, far displaced towards margin.

Underside: paler and devoid of dark marginal spots. The marginal areas pinkish-grey (especially pink on the hind-wing) and enclosing pale grey, almost invisible spots or lunules representing the black marginal spots of the upperside; anteciliar line reddish-grey, very fine; cilia basally pale grey or pinkish, distally darker. *Fore-wing* in addition to or in place of the spots of the upperside, a pair of large silver-centred black spots in the cell, and a minute one in area 10, a row of black submarginal spots (large in 1a, thence decreasing

to area 5), and a basal and sub-basal black spot in 1a. *Hind-wing* rather rough greyish ochreous, the veins finely orange, the discal spots of the upperside very vaguely indicated by pale grey shadows.

Length of fore-wing: 13 mm.

Holotype ♀, Cape Province, Matjesfontein, 25–30.x.1928 (*R. E. Turner*) (B.M. Type No. Rh 459).

The position of the discal spots of the fore-wing (2 immediately below 3) places this species near *P. lycegenes* Trim., *P. lyncurium* Trim., and *P. chrysaor* Trim., but it is at once separable by means of the isolated spots around the margins and the very distinctive pale ochreous, pink-margined, hind-wing.

Lepidochrysops bacchus sp. n. (pl. 1, fig. 25, pl. 2, fig. 50).

♂♀. *Upperside* dark brown with a silky golden sheen, especially in the male; cilia pure white, but darkened distally and prominently chequered with black at the ends of the veins; a dark bar at the end of the cell in the *fore-wing*; on the *hind-wing* a series of round submarginal black spots, not easily seen, and chiefly indicated by the double row of very faint narrow blue crescents which enclose them, in areas 2–5 (and 6)—the spot in 2 is by far the best defined.

Underside ground colour dark grey-brown, the cilia as above, but the dark markings extended and a dark line running through the white on the hind-wing from anal angle to vein 5; all discal spots narrowly edged with pale grey. On the *fore-wing* the discal series is complete from 1–6 and does not quite join the spot at cell end; before the margin are three series of white interneural lines, of which the marginal ones are straight, or, if chevron-shaped, have the apices outward, the other two composed of chevrons having their apices inwards. The areas more or less enclosed by these lines are slightly darker than the rest of the ground colour. On the *hind-wing* all the spots in the basal third of the wing (up to but not including cell end) are black, the remainder dark brown, except the discal spot in 6, which is almost black; discal spots not fused to form a broad band, but distinct, except 4 and 5 which are larger than the remainder and are fused to form a single almost square spot, spot in 2 almost as large, 3 very small; immediately beyond the discal spots a series of dark cones the white apices of which reach them (except in 2); touching these and the margin is a series of white circles in areas 1c (2 circles) to 6, filled in 2 (only) with black which is marked proximally with blue scales.

The *genitalia* of the male show a long very narrow bow-shaped clasper of even width throughout; the extremity of this is upturned and sharply reduced to a point (much as in *L. tantalus* Trimen as figured by Bethune-Baker in *Trans. ent. Soc. London*, **1922**, pl. xv, figs. 5 and 5a (1923)); the aedeagus is completely tubular for only very little more than half its length, the open end being nearly as long as the closed portion and moderately expanded in contrast with the tubular part, which is almost uniform in diameter throughout its length.

Length of fore-wing: ♂ 13·5 mm.; ♀ 15 mm.

The ♂ holotype and one female were collected on 4 October, 1935, on the Tygerberg Hills, near Cape Town, by Mr. C. G. Dickson, who had previously taken another female on 28th September, at the same spot. These are in the British Museum (Natural History) under the type numbers B.M. Rh 461 ♂ and 462 ♀. There are also four males (*ex* Trimen coll.) in the British Museum from Malmesbury, taken by Trimen and Bowker in September 1879.

This little species is clearly closely allied to *L. methymna* Trimen (pl. 1, fig. 23, pl. 2, fig. 48) and *L. puncticilia* Trimen (pl. 1, fig. 24, pl. 2, fig. 49), occupying a somewhat intermediate position. In size it is the same as the

latter, but its brighter, rather golden upperside provides a clue to its identity which is confirmed by a comparison of the white chequering of the fringes; in *L. puncticilia* the white spots are small, square or rounded and often extend on to the surface of the wing; in *L. bacchus* they are oblong, extending almost from vein to vein, but not on to the wing surface. The marginal spots on the upperside of the hind-wing are very characteristic. The underside is at first sight very much like that of *L. methymna* and at a glance much paler and very different from that of *L. puncticilia*. Mr. Dickson pointed out, when sending his specimens, that the median band of spots on the underside of the hind-wing has not suffered the expansion and fusion so characteristic of *L. methymna*, the spots remaining small and separate, except those in 4 and 5, which are conjoined; but an even better character to which he drew attention is the position of the blue scaling *on the inner* side of the black marginal spot in area 2. The division of the white cilia on the underside of the hind-wing by a dark line running parallel to the wing margin seems also a constant feature. The genitalia are markedly different from those of *L. methymna*. The aedeagus alone serves to distinguish them, for the tubular portion in *L. methymna* accounts for about two-thirds of the entire length, and is constricted towards each end although widening again at the actual ends. *L. methymna* has the distal half of the clasper relatively stouter than in *L. bacchus*, and varying in width, being widened at the first main bend and tapering and curving in the opposite direction to a gradual point; the whole clasper is much straighter in *L. methymna* than in *L. bacchus*, when viewed from beneath.

Mr. Dickson, writing on 16th November, 1935, stated that up till then he had taken in all eight specimens of this species, and that where he found them he had observed neither *L. methymna* Trimen nor *L. puncticilia* Trimen. Most of them were taken whilst they were flying round a small rocky scrub-covered knoll on the side of one of the hills of the Tygerberg range, at about 800 feet above sea-level. Their flight was restless and irregular, but they occasionally settled on the ground or on a red-flowered leguminous shrub (*Sutherlandia frutescens*) which grows in some profusion at this spot. A few others were noticed some little distance from the knoll, flying rapidly over the hillside and rarely attempting to settle.

Explanation of Plate 1.

Uppersides.

Fig. 1. *Pseudonympha dicksoni* sp. n. ♂.
2. *Pseudonympha dicksoni* sp. n. ♀.
3. *Pseudonympha irrorata* Trimen. ♀.
4. *Pseudonympha machacha* sp. n. ♂.
5. *Pseudonympha machacha* sp. n. ♀.
6. *Pseudonympha trimenii gaika* subsp. n. ♂.
7. *Pseudonympha penningtoni* sp. n. ♂.
8. *Pseudonympha penningtoni* sp. n. ♀.
9. *Phasis thyra* form. *pallida* form. n. ♂.
10. *Phasis thyra* form. *egerides* form. n. ♀.
11. *Phasis thyra maseruna* subsp. n. ♂.
12. *Phasis thyra maseruna* subsp. n. ♀.
13. *Poecilmitis thysbe brooksi* subsp. n. ♂.
14. *Poecilmitis thysbe brooksi* subsp. n. ♀.

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South African Butterflies.

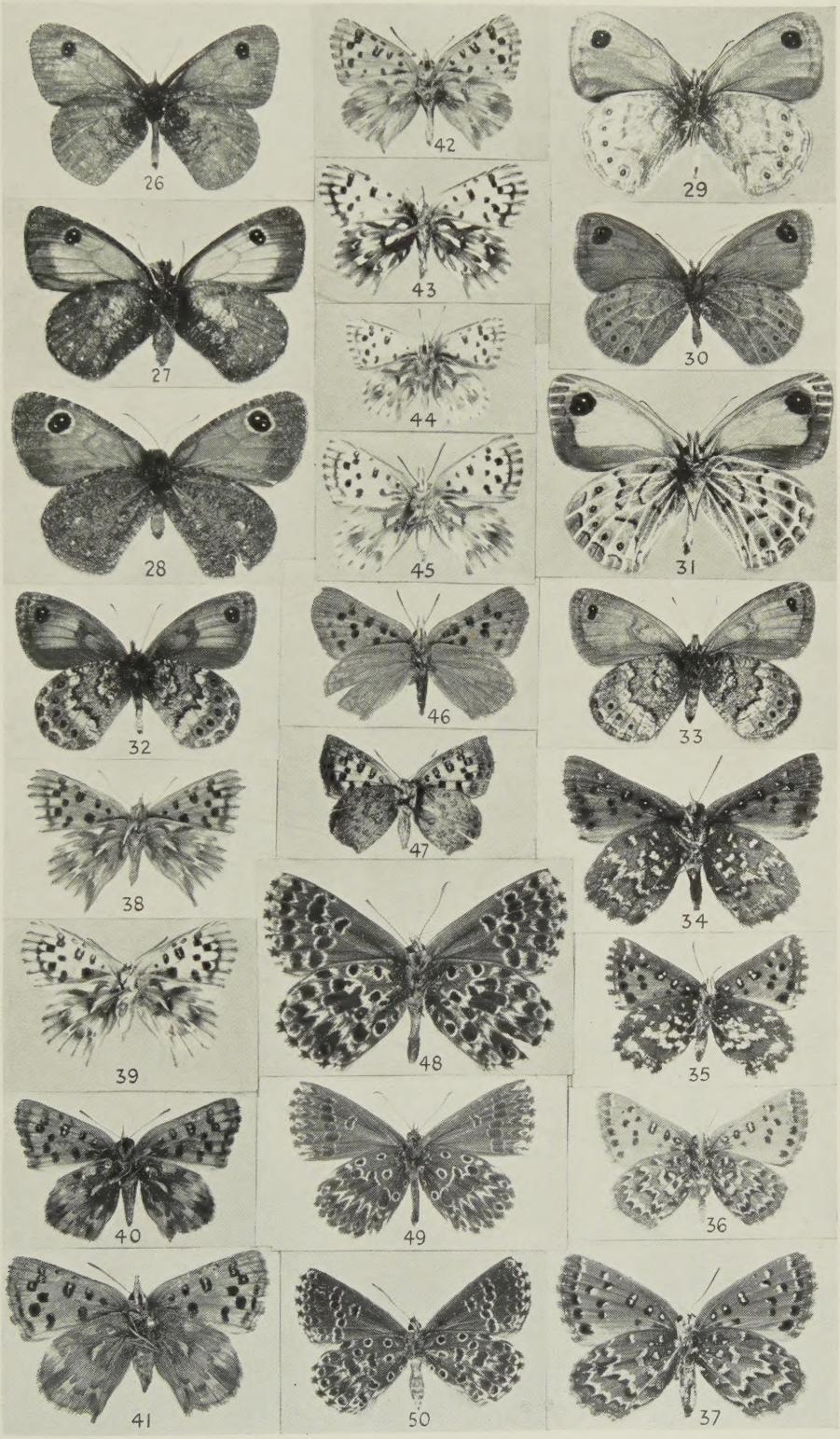

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Fig. 15. *Poecilmitis thysbe trimeni* subsp. n. ♂.
16. *Poecilmitis thysbe trimeni* subsp. n. ♀.
17. *Poecilmitis turneri* sp. n. ♂.
18. *Poecilmitis turneri* sp. n. ♀.
19. *Poecilmitis penningtoni* sp. n. ♂.
20. *Poecilmitis penningtoni* sp. n. ♀.
21. *Poecilmitis lycia* sp. n. ♀.
22. *Phasis zeuxo zonarius* subsp. n. ♂.
23. *Lepidochrysops methymna* Trimen. ♂.
24. *Lepidochrysops puncticilia* Trimen. ♂. (Paratype).
25. *Lepidochrysops bacchus* sp. n. ♀.

Explanation of Plate 2.

Undersides.

Fig. 26. *Pseudonympha dicksoni* sp. n. ♂.
27. *Pseudonympha dicksoni* sp. n. ♀.
28. *Pseudonympha irrorata* Trimen. ♀.
29. *Pseudonympha machacha* sp. n. ♂.
30. *Pseudonympha machacha* sp. n. ♀.
31. *Pseudonympha trimenii gaika* subsp. n. ♂.
32. *Pseudonympha penningtoni* sp. n. ♂.
33. *Pseudonympha penningtoni* sp. n. ♀.
34. *Phasis thyra* form. *pallida* form. n. ♂.
35. *Phasis thyra* form. *egerides* form. n. ♀.
36. *Phasis thyra maseruna* subsp. n. ♂.
37. *Phasis thyra maseruna* subsp. n. ♀.
38. *Poecilmitis thysbe brooksi* subsp. n. ♂.
39. *Poecilmitis thysbe brooksi* subsp. n. ♀.
40. *Poecilmitis thysbe trimeni* subsp. n. ♂.
41. *Poecilmitis thysbe trimeni* subsp. n. ♀.
42. *Poecilmitis turneri* sp. n. ♂.
43. *Poecilmitis turneri* sp. n. ♀.
44. *Poecilmitis penningtoni* sp. n. ♂.
45. *Poecilmitis penningtoni* sp. n. ♀.
46. *Poecilmitis lycia* sp. n. ♀.
47. *Phasis zeuxo zonarius* subsp. n. ♂.
48. *Lepidochrysops methymna* Trimen. ♂.
49. *Lepidochrysops puncticilia* Trimen. ♂. (Paratype).
50. *Lepidochrysops bacchus* sp. n. ♀.